Math 9 Assignment #4c Due Date: _____

Mark _____ / 36 Name: _____

Directions: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

Part A: **/12**

1) Evaluate each of the following: (a to d = 1 mark each; e to g = 2 marks each)

a) $(-5)^0$ **b)** $-\sqrt{16^2}$ **c)** $\sqrt{38+43}$ **d)** $-4.1-(-13.81)$

e) $-2\frac{1}{5}\div 1\frac{1}{4}$ **f)** $(-8)^2 + (-3)^5 \div (-3)^2$ **g)** $(-1)^{11} + (23)^0 - (\frac{3}{4})^2$

2) Place the following powers in order from least to greatest. (2 marks)

1^{22}, 3^4, 4^2, 2^4, 7^2

Part B: **Please answer all questions. 3 marks each** **/12**

1) Indicate at which step an error occurred and explain the error. Then, re-do this question correctly.

$(-3+6)^2 - 5\times 2^2$

$=3^2 - 5\times 2^2$ step 1

$=9-5\times 2^2$ step 2

$=4\times 2^2$ step 3

$=4\times 4$ step 4

$=16$ step 5

2) Write an expression with powers to determine the difference between the area of a large square rug having a side of 16m and the area of a smaller square rug having a side of 3m. Calculate the difference.

3) A square stage is built in the middle of a small square park. The area of the stage is 36 m^2 and the area of the park is 196 m^2. How far is the edge of the stage from the edge of the park?

4) Kalie owes her mother $60. She reimburses her mother $\frac{2}{5}$ of the debt and then, $\frac{1}{3}$ of the remaining debt. How much does Kalie now owe her mother?

<u>Part C:</u> Complete question 1 and choose any <u>2</u> of the remaining 3 questions. 4 marks each /12

1) Solve:

$$\left[\left[-\frac{2}{3}\left(1\frac{4}{5}\right)\right]^2 + 3\left(-1\frac{1}{2}\right)^2\right]$$

(Leave your answer in proper fraction format)

2) a) Explain why you can write 3^4 as a power having a base of 9 and an integer as an exponent, but cannot do this for 3^3?
b) Knowing that 4^3 is 64 and 3^4 is 81, how do you know that $4^{30} < 3^{40}$.

3) For the rectangular room shown calculate:
a) the perimeter.
b) the area.
c) If you were to replace the carpet in this room, at a cost of $12.56 per meter^2, how much would it cost you before tax?

$2\frac{1}{3}$ m

$4\frac{5}{6}$ m

4) Read this riddle and answer the questions.

In Fredericton, there are five pink houses. In each pink house, there are five pink rooms. In each pink room, there are five cats, and each cat has five kittens.

a) How many pink rooms are there in total?
b) How many kittens are there in total?
c) Express the sum of the houses, the rooms, the cats, and the kittens with an expression which includes the powers of 5. Calculate this expression.